<u>REMARKS</u>

Claims 22-35 are amended. No claims are cancelled. No new claims are added. Claims 1-35 are now pending in the application. The amendments to the claims as indicated herein do not add any new matter to this application. Furthermore, amendments made to the claims as indicated herein have been made to exclusively improve readability and clarity of the claims and not for the purpose of overcoming alleged prior art. Each issue raised in the Office Action mailed April 13, 2007 is addressed hereinafter.

I.   ISSUES NOT RELATING TO PRIOR ART

A.   DRAWINGS

The drawings were objected to under 37 CFR 1.84(p)(4) because reference characters "222" and "228" were used to designate the same path. The enclosed Replacement Sheet for Figure 2A by labels an unlabeled path as "226" and labels the path formerly labeled "226" as "228".

The drawings were objected to under 37 CFR 1.84(p)(5) because the reference characters "606" and "602B" were not mentioned in the description. Paragraphs 95 and 108 listed in this response use the reference characters.

The drawings were objected to under 37 CFR 1.121(d) due to an unlabeled line between #208 and #210. In the replacement sheet for Fig. 2A, the unlabeled line is labeled as "226".

The drawings fully comply with 37 CFR 1.84(p)(4), 37 CFR 1.84(p)(5), and 37 CFR 1.121(d). Reconsideration is respectfully requested.

B.   CLAIMS 22-35 FULLY CONFORM TO 35 U.S.C. § 101

Claims 22-35 were rejected under 35 U.S.C. § 101 as allegedly directed to non-statutory subject matter under the rationale that the subject matter recited by Claims 22-35 may include a wave, which is allegedly non-statutory subject matter.

Present Claims 22-35 are directed towards either a computer-readable storage medium or an apparatus comprising a computer-readable storage medium. A wave, such as a carrier wave, is not a computer-readable storage medium because computer-readable instructions cannot be

stored on a wave; at best, a wave may temporarily **carry** instructions, which when stored on a computer-readable storage medium, may be read by a computer. Accordingly, Claims 22-35 recite proper subject matter under 35 U.S.C. § 101. Reconsideration is respectfully requested.

C.   CLAIM 11 IS FREE OF INFORMALITIES

Claim 11 was objected to as allegedly containing a """" before the word symptoms on line 16. It is respectfully submitted that Claim 11 was filed with no such informality. Therefore, listing the claim as "currently amended" would be improper. The original Claim 11 is listed above, and contains no informalities.

II.   ISSUES RELATING TO PRIOR ART

A.   CLAIMS 1-35

Claims 1-35 are rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Marques. The rejections of Claims 1, 11, 15, 22, and 32 are respectfully traversed.

CLAIM 1

Claim 1 recites, in part, "defining and storing a set of rules in one or more Rule-Based Markup Language ("RBML") Documents." The Office action asserts that "in regards to claim 1, Marques teaches the rules can be defined in any language," and infers from this that Marques therefore teaches the use of Rule-Based Markup Language ("RBML") documents. This is incorrect.

Marques does not teach that rules can be defined in any language. In fact, the section referred to by the Office Action merely states that the "Troubleshooter" program, the overall program and not rules to define what the program does, has been implemented in several (not any language) programming languages (*Troubleshooter is a collection of many programs and is implemented in several different programming languages) [see the discussion beginning at Page 13, col. 1 ¶3]*. Additionally, there is no discussion at all in Marques regarding the language used to define rules, so it is impossible for Marques to teach the distinct requirement of the use of applicants' Rule-Based Markup Language to define and store a set of rules.

RBML is a markup language based on XML, and executes with the assistance of a program written in a different language. Since the Marques states only that "Troubleshooter" has been implemented in several languages, and "Troubleshooter" cannot be implemented using RBML, Marques does not describe the use of RBML to define and store rules.

Furthermore, since XML was introduced in 1996, Marques, a 1988 article, cannot directly teach or suggest the use of RBML in any way. SGML, the predecessor to XML had been introduced as a first draft in 1980, but no reference to SGML is found in Marques. Not only does Marques fail to teach the use of RBML, but it fails to teach the use of any RBML predecessors.

Finally, applicants' specification identifies other languages that have been used to define rules. The specification states in Paragraph 32 that "in various embodiments, RBML is implemented directly by a network management system, or is converted to another language that is known to the network management system, such as the SMARTS InCharge model language, NetCool scripting language, etc." Languages used for such systems are generally proprietary. Thus, having the ability to choose a language to use does not in fact teach one to use a particular language. To the contrary, knowing that something can be created using any language obfuscates the advantage of using one language in particular.

Using RBML documents to define rules allows the rules to be ported to other network management systems, reducing the requirement for vendors and network management experts to create rules in multiple languages. Further, network management tools often require the use of a specific language to import rules or require that the rule be programmed into the system. RBML, on the other hand, allows the creation of rules by those less familiar with the inner workings of the network management system. Marques states that once the knowledge is gathered from the experts, rules are "coded in the form of complex condition-action pairs referred to as production rules" and proceeds to share the English language version of some rules *[see the discussion beginning at Page 8, col. 2 ¶4-6]*. The implementation in Marques is not even simple enough to allow subject matter experts to create the rules, since complex coding was required. Since the use

of RBML solves a problem that the Marques system is burdened with, Marques certainly does not teach the use of RBML.

Claim 1 further recites, "a symptom-event rule that defines a problem within the network." The Office action further asserts that Marques teaches a system-event rule that identifies as a symptom a particular event occurring within the network. This is incorrect.

The passage relied upon by the Office Action merely states the input of the system and does not define the type of rule used *(System input consists mainly of (i) symptom descriptions that either are reported to the help desk by network end-users, or are derived from network generated messages, and (ii) specific inquiries about the operational state of a designated component) [see the discussion beginning at Page 6, col. 1 ¶5].* The more primitive single type of rule used in Marques is a condition-action rule *(After the knowledge acquisition process was completed for a given component, the resultant knowledge was coded in the form of complex condition-action pairs referred to as production rules, or simply rules) [see the discussion beginning at Page 8, col. 2 ¶4].* By contrast, Claim 1 recites two distinct types of rules: (a) a symptom-event rule; and (b) a problem-diagnosis rule.

Marques describes a limited approach using rules that can only instruct the system to "perform action X if device is in service state Y." Only a "detect service state → apply corrective action" rule is disclosed. Claim 1 allows the use of any defined symptom or combination of symptoms to trigger an event. Also, any event or combination of events can be used to define problems. While Claim 1 allows such control over what will trigger an event and what will not, Marques simply waits for a device to trigger an event – allowing no control.

With the claimed approach, a network engineer may define a combination of symptoms that may even be proactive in nature and include the use of information from multiple healthy devices to trigger an event that, when compared against a problem-diagnosis rule may tell a

network administrator that the network will have a particular problem shortly if a proactive step is not taken.

Further, Marques actually relies on the network administrator to receive messages from a help desk, user, or computer generated event and interpret the message before starting the troubleshooting process *(After receiving a trouble ticket or other fault notification the user logs into the Troubleshooter host and invokes the symptom via simple command line) [see the discussion beginning at Page 10, col. 1 ¶1]*. In fact, the "Troubleshooter" does not even detect the address of the malfunctioning device – it must be provided by the network administrator before any "troubleshooting" begins *(In order to trace the communications path, the system must be supplied with a starting point, which is the physical address where the end-user terminal enters the network.) [see the discussion beginning at Page 11, col. 1 ¶2]*. The embodiment recited in Claim 1 has no such requirement of the network administrator because of the symptom-event rule. Marques cannot teach this feature.

Claim 1 further recites "a problem diagnosis rule that defines a problem within the network as a correlation between one or more symptoms" and "applying the problem-diagnosis rule to symptom-related data." The Office Action asserts that Marques "teaches a problem-diagnosis rule that is defined based off of symptoms" and that Marques teaches applying the solution rule to the problem, inferring that Marques teaches applying a problem-diagnosis rule. These assertions are incorrect.

The single rule used in Marques does not rely on symptoms; it relies on service state information coupled with human knowledge. In Marques, service state information, problems reported by users, and trouble tickets alert the network administrator to a possible problem. The network administrator then decides what the problem is and selects that particular problem from a menu in the "Troubleshooter" application. The network administrator then inputs the address

of the device suspected to be at issue. Once the proper information is collected from the network

administrator, the troubleshooting begins. The "Troubleshooter" program does not actually

monitor the network; it "checks" the network when told to do so. Even in the most automated

alternative mode, the "Troubleshooter" still "prompts [the administrator] for a symptom

description and the physical address of the component to be diagnosed." *[see the discussion*

beginning at Page 12, col. 2 ¶7]. In contrast, Claim 1 allows greater flexibility without the strict

requirement for human intervention.

Marques describes applying a solution to the detection of a service state. Marques does

not teach applying a problem-diagnosis rule. Marques provides no way to detect one or more

symptoms that constitute an event or correlate the events as a problem. These symptoms and

events may be defined by any user of the system, and may have nothing to do with the service

state of a device. Further, multiple devices may take part in the determination of a problem.

Marques only describes a method of troubleshooting the cause of a problem for a single device

by entering the address of that one device. In contrast, Claim 1 "monitors the network for one or

more network events identified in the symptom-event rule." Claim 1 further recites that

"detecting a problem includes applying the problem-diagnosis rule to the symptom-related data."

Since symptom-event rules and the problem-diagnosis rules are defined by the user with RBML,

they are not limited to the number or type of network events they encompass. This flexibility is

a strong distinction between Claim 1 and Marques.

For the last two steps of Claim 1, the Office action asserts that Marques "teaches

collecting symptoms by monitoring the network" and "detecting a problem within the network."

This is incorrect.

The troubleshooting system discussed in Marques does not monitor the network. The

"Troubleshooter" only "checks" the network when told to do so. Furthermore, the

troubleshooting system discussed in Marques does not detect a problem within the network without the help of human intervention, as discussed.

For at least the foregoing reasons, Claim 1 is not taught in full by Marques and is in condition for allowance. Therefore, removal of the rejection under 35 U.S.C. § 102(b) is respectfully requested.

<u>CLAIMS 11, 15, 22, and 32</u>

The Office Action stated the same reasons in rejecting Claims 11, 15, 22 and 32 to those in rejecting present Claim 1. Claims 15, 22 and 32 recite the same features discussed above that make Claim 1 patentable over Marques. Therefore, for at least the same reasons set forth above by the Applicant in connection with present Claim 1, it is respectfully submitted that each of Claims 11, 15, 22 and 32 is patentable over Marques under 35 U.S.C. § 102(b).

<u>DEPENDENT CLAIMS</u>

The claims not discussed thus far are dependent claims, each of which depends (directly or indirectly) on one of the independent claims discussed above. Each of the dependent claims is therefore allowable for the reasons given above for the claim on which it depends. In addition, each of the dependent claims introduces one or more additional limitations that independently render it patentable. However, due to the fundamental differences already identified, to expedite the positive resolution of this case, a separate discussion of those limitations is not included at this time. The Applicant reserves the right to further point out the differences between the cited art and the novel features recited in the dependent claims.

III.   CONCLUSIONS & MISCELLANEOUS

For the reasons set forth above, all of the pending claims are now in condition for allowance. The Examiner is respectfully requested to contact the undersigned by telephone relating to any issue that would advance examination of the present application.

A petition for extension of time, to the extent necessary to make this reply timely filed, is hereby made. If applicable, a check for the petition for extension of time fee and other applicable fees is enclosed herewith. If any applicable fee is missing or insufficient, throughout the pendency of this application, the Commissioner is hereby authorized to any applicable fees and to credit any overpayments to our Deposit Account No. 50-1302.

Respectfully submitted,

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